In the Claims:

Claim 1 (currently amended):

1. A pulse laser assisted machining method comprising a fine machining process, said fine machining process comprising the following steps of:

(a) focusing a laser beam in such a manner that a focal point is located on a workpiece, and that the focal point is separated from a front of the blade of a machinning tool by a microdistance;

(b) moving the workpiece and the machining tool in relation to each other;

(c) softening a focused area by an instantaneous laser heating;

(d) advancing the machinning tool such that the machined material and the softened material are removed together, and that the same machinning mechanism is repeated until a subsequent laser emission;

wherein the laser beam is brought into focus such that the focal point is separated from the front of the blade of the machinning tool by a distance ranging from several μm to more than 10 μm.

Claim 2 (canceled):

2. The method as defined in claim 1, wherein the laser beam is brought into focus such that the focal point is separated from the front of the blade of the machinning tool by a distance ranging from several μm to more than 10 μm.

Claim 3 (original):

3. The method as defined in claim 1, wherein each pulse time of the laser is measured in unit

of microsecond or nanosecond.

Claim 4 (original):

4. The method as defined in claim 1, wherein the focal heating range of the laser has a width of several μm to more than 10 μm, and a length of more than 10 μm to several hundred μm.

Claim 5 (canceled):

5. A laser assisted machining device comprising:

a tool mount;

a machining tool mounted on a tool mount;

a laser head mounted on the tool mount such that the laser beam of the laser head can be focused on a workpiece for instantaneously heating and softening the workpiece;

a chip spray mounted on the tool mount for removing chip by a high-pressure fluid emission.

Claim 6 (canceled):

6. The device as defined in claim 5, wherein the laser head emits pulsed or continuous laser beam.

Claim 7 (canceled):

7. The device as defined in claim 5, wherein the chip spray removes the chip by a high-pressure gas or liquid.

Claim 8 (original):

8. A laser assisted machining device comprising:

a tool mount;

a machining tool mounted on the tool mount;

a laser head mounted on the tool mount such that the laser beam of the laser head can be focused on a workpiece for instantaneously heating and softening the workpiece;

a chip spray mounted on the tool mount for removing chip by a high-pressure fluid emission;

a digital thermometer disposed in a handle of the machining tool or on the tool mount for monitoring the temperature of a tool tip of the machining tool; and

a system controller for receiving data of the tool tip temperature so as to control automatically laser.

Claim 9 (original):

9. The device as defined in claim 8, wherein the chip spray removes the chip by a high-pressure gas or liquid..

Claim 10 (original):

10. The device as defined in claim 8, wherein the laser head emits pulsed or continuous laser beam.

Claim 11 (original):

11. The device as defined in claim 8, wherein the digital thermometer is a thermocouple or infrared digital thermometer.